A Midwest Study of Attitudes and Opinions Toward Photovoltaic Technology: Executive Summary

The Iowa Department of Natural Resources commissioned a survey of 1206 architects, contractors, developers, engineers, college instructors and realtors in the six midwestern states (Illinois, Iowa, Minnesota, Missouri, Nebraska and Wisconsin) to determine current barriers to increased use of photovoltaic technologies (PV) in buildings in the Midwest. Sampling error among the subgroups ranged from 5.9% to 6.9%.

The survey found that barriers to increased use of PV include:

1. Low familiarity/satisfaction with and understanding of PV
2. Belief that PV is expensive and ugly
3. Extreme concern for the environment is not an issue in business decisions
4. Lack of client requests for PV systems
5. Lack of availability of PV systems
6. Belief that the technology is immature
7. Belief that PV system cost is prohibitively high

The survey also tested for solutions to the barriers and found the following leading solutions:

1. Make systems more cost-effective (six- to ten-year payback deemed acceptable)
2. Disseminate education on technology
3. Create case studies and payback as well as price information
4. Develop demonstrations with PV to show that it works
5. Provide financial incentives
6. Make it easier to interconnect to the power grid

Other Interesting Findings:

1. Instructors, architects and engineers are significantly more familiar with PV than contractors, developers and realtors.
2. Respondents were more concerned about rising energy costs and pollution than fossil fuel depletion, rolling blackouts and global warming.
3. Respondents were more familiar with ground and roof PV systems than with shingle panels or curtain walls.
4. Respondents believed the most important issues related to PV systems included: cost, connection to grid, ease of use and financial incentives.
5. Most respondents believed the general public was not at all informed about PV systems.
6. Many respondents were not currently receiving information on PV, while some received their information from (in rank order) magazines and journals, the news media, and the internet.

Geographic Differences:

The majority of opinions regarding barriers and solutions to increasing use of PV were the same throughout the states surveyed. There were a few statistically significant findings where opinions in the states differed, however:

1. Instructors in Missouri were the most knowledgeable about PV systems, while those in Minnesota and Nebraska were the least. In the middle (in ranking order) were Illinois, Wisconsin and Iowa.
2. Engineers from Minnesota and Missouri rated the importance of PV system cost significantly higher than engineers from Iowa, with those in Illinois, Wisconsin and Nebraska falling in between.
3. Engineers from Illinois and Wisconsin rated the importance of having written materials for the general public available significantly higher than those from Minnesota and Nebraska, with those in Iowa and Missouri in between.
4. Instructors from Minnesota and Missouri felt that a favorable perception of PV systems was very important to widespread use of the systems, while those in Nebraska felt they were less important and those in Wisconsin, Iowa and Illinois were in the middle.
5. Engineers from Missouri, Iowa and Nebraska rated their satisfaction with systems not being visible (i.e. not visually intrusive or ugly) relatively high, while those from Wisconsin, Minnesota and Illinois rated their satisfaction relatively low.
6. Developers from Iowa rated their satisfaction with the public's perception of PV systems much higher than the other states.
7. Architects from Minnesota rated their satisfaction with the availability of technical information higher than those from other states.
8. Instructors from Iowa rated their satisfaction with current financial incentives significantly higher than those from other states.
9. Engineers from Minnesota and Illinois saw cost as a major reason they would not use PV more than those in Iowa and Nebraska, with those from Wisconsin and Missouri falling in between.
10. Architects from Illinois and Wisconsin saw the risk of long-term malfunction of PV systems as more important than did architects from Minnesota and Nebraska, with those from Iowa and Missouri in between.

The PV survey was the basis for development of a Strategic Plan to address the barriers determined by the survey and increase the use of photovoltaic technologies in new and existing construction in the Midwest. The Plan's goals are to:

1. Build the PV industry infrastructure;
2. Demonstrate the viability of PV systems;
3. Educate the public about PV systems; and
4. Educate building professionals about PV systems.